CLAIMS

We claim:

1. A medical infusion system comprising a lineset having a first end capable of attachment to a reservoir and a second end capable of attachment to another component, a durable pump component for engaging the lineset and controlling a fluid flow through the lineset, and a power supply affixed to other than the durable pump component and capable of operative connection with the durable pump component.
2. The medical infusion system of Claim 1, wherein the power supply is affixed to the lineset.
3. The medical infusion system of Claim 2, wherein the lineset and power supply are disposable.
4. The medical infusion system of Claim 1, further comprising an auxiliary component attached to the lineset selected from the group consisting of a valve, a flow sensor, a pump, a pressure sensor, a feedback control input, a biological status sensor, other closed-loop type sensors, and any combination of such components.
5. The medical infusion system of Claim 4, wherein the power supply is affixed to the auxiliary component.
6. The medical infusion system of Claim 1, wherein the power supply comprises a fuel cell.
7. The medical infusion system of Claim 1, wherein the power supply comprises means suitable for input of AC power.
8. The medical infusion system of Claim 1, wherein the power supply comprises a battery.
9. The medical infusion system of Claim 8, wherein the battery comprises a flexible thin layer open electrochemical cell.
10. The medical infusion system of Claim 1, wherein the power supply is configured to be activated to provide electric power by an activating member.
11. The medical infusion system of Claim 10, wherein the activating member is a component of the durable pump which operably connects to the power supply.
12. The medical infusion system of Claim 6, wherein the fuel cell comprises a reactant source and a barrier separating the reactant source from a reaction chamber.
13. The medical infusion system of Claim 12, wherein the barrier is selected from the group consisting of a frangible membrane, a tear seal, and any combination of the two.

14. The medical infusion system of Claim 6, wherein the fuel cell is a low temperature fuel cell.

15. The medical infusion system of Claim 1, wherein the power supply is integral to a surface of the lineset.

16. The medical infusion system of Claim 1, wherein the power supply is configured to fit within the durable pump component.

17. The medical infusion system of Claim 1, further comprising a recharger for recharging the power supply.

18. The medical infusion system of Claim 17, wherein the recharger comprises a fuel cell.

19. A medical lineset comprising:

tubing having first and second ends attachable to at least a first and second medical component;

a power supply attached to the tubing; and

an activating member for placing the power supply into operative connection with an electric component.

20. The medical lineset of Claim 19, wherein the activating member is a connector of the electric component.

21. The medical lineset of Claim 19, wherein the power supply comprises a fuel cell.

22. The medical lineset of Claim 21, wherein the fuel cell comprises a reactant source and a barrier separating the reactant source from a reaction chamber.

23. The medical lineset of Claim 22, wherein the barrier is selected from the group consisting of a frangible membrane, a tear seal, and any combination of the two.

24. The medical lineset of Claim 21, wherein the fuel cell is a low temperature fuel cell.

25. The medical lineset of Claim 19, wherein the power supply is integral to a surface of the tubing.

26. The medical lineset of Claim 25, wherein the power supply comprises a low temperature fuel cell.

27. The medical lineset of Claim 20, wherein the fuel cell is configured to fit within the electric component.

28. The medical lineset of Claim 22, wherein the barrier is configured to be defeated by a mechanism of the electric component.

29. The medical lineset of Claim 27, wherein the fuel cell comprises a reactant source and a barrier separating the reactant source from a reaction chamber, the barrier being configured to be defeated by a mechanism within the fluid pump.

30. A method of powering a fluid pump comprising the steps of:

providing tubing with an attached power supply;

operably connecting the power supply to the fluid pump; and

activating the power supply to provide electrical power to the fluid pump.

31. The method of Claim 30, wherein the power supply comprises a fuel cell and the step of activating the power supply comprises the step of providing a suitable reactant to a reaction chamber of the fuel cell to cause a chemical reaction.

32. The method of Claim 31, wherein the step of providing a suitable reactant comprises the step of defeating a barrier separating the reactant from the reaction chamber within the fuel cell.

33. The method of Claim 32, wherein the step of defeating a barrier comprises the step of removing a tear seal.

34. The method of Claim 32, wherein the step of defeating a barrier comprises the step of breaking a frangible membrane.

35. The method of Claim 32, wherein the barrier is selected from the group consisting of a frangible membrane, a tear seal, and any combination of the two.

36. The method of Claim 30, wherein the step of operably connecting the power supply comprises inserting the power supply into the fluid pump.

37. The method of Claim 31, wherein the fuel cell is a low temperature fuel cell.

38. The method of Claim 30, wherein the tubing is a medical tubing and the power supply is integral to an outer surface of the medical tubing.

39. A method for delivering fluid through a lineset comprising the steps of:

providing an infusion system comprising a fluid pump and tubing having a first end in fluid communication with a fluid source and a second end in fluid communication with a delivery device;

providing a power supply affixed to a component of the infusion system other than the fluid pump;

operably connecting the power supply to the fluid pump;

activating the power supply to provide power to the fluid pump; and

pumping fluid through the tubing from the fluid source toward the second end of the tubing.

40. The method of Claim 39, wherein the power supply comprises a fuel cell and the step of activating the power supply comprises the step of providing a suitable reactant to a reaction chamber of the fuel cell to cause a chemical reaction.
41. The method of Claim 40, wherein the step of providing a suitable reactant comprises the step of removing a barrier separating the suitable reactant from the reaction chamber.
42. The method of Claim 41, wherein the barrier is selected from the group consisting of a frangible membrane, a tear seal, and any combination of the two.
43. The method of Claim 39, wherein the power supply is attached to the tubing.
44. The method of Claim 43, wherein the power supply is integral to an outer surface of the tubing.
45. The method of Claim 39, wherein the step of operably connecting the power supply comprises placing the fuel cell into the fluid pump.
46. The method of Claim 40, wherein the fuel cell is a low temperature fuel cell.
47. A medical infusion system comprising a lineset having a means for attaching a first end to a reservoir and means for attaching a second end to another component, a means for engaging a durable pump to the lineset and means for controlling a fluid flow through the lineset, and a means for operatively connecting a means for supplying power, affixed to other than the durable pump, to the durable pump.
48. The medical infusion system of Claim 47, wherein the means for supplying power is affixed to the lineset.
49. The medical infusion system of Claim 48, wherein the lineset and means for supplying power are disposable.
50. The medical infusion system of Claim 47, further comprising an auxiliary component attached to the lineset selected from the group consisting of a valve, a flow sensor, a pump, a pressure sensor, a feedback control input, a biological status sensor, other closed-loop type sensors, and any combination of such components.
51. The medical infusion system of Claim 50, wherein the means for supplying power is affixed to the auxiliary component.
52. The medical infusion system of Claim 1, wherein the means for supplying power comprises a fuel cell.

53. A medical lineset comprising:

tubing having a first end, a second end, and means for attaching each end to at least a first and second medical component;

means for supplying power attached to the tubing; and

means for activating the means for supplying power into operative connection with an electric component.

54. The medical lineset of Claim 53, wherein the means for activating comprises a connector of the electric component.

55. The medical lineset of Claim 53, wherein means for supplying power comprises a fuel cell.

56. The medical lineset of Claim 55, wherein the fuel cell comprises a reactant source and a means for separating the reactant source from a reaction chamber.

57. The medical lineset of Claim 56, wherein the means for separating is a barrier selected from the group consisting of a frangible membrane, a tear seal, and any combination of the two.

58. The medical lineset of Claim 55, wherein the fuel cell is a low temperature fuel cell.

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